

# ELECTRICAL NOTES

## a) PANEL LOCATIONS

Panels shall not be located in the vicinity of easily ignitable material, such as clothes closets. Panels shall not be located in bathrooms.

## b) NON-METALLIC SHEATHED CABLE

Non-metallic sheathed cable shall be:

1. Protected by conduit, electrical metallic tubing, schedule 80 PVC rigid non-metallic conduit, pipe, guard strips, listed surface metal or non-metallic raceway, or other means when cable is exposed or subject to physical damage.
2. Protected by a 1/16 inch steel plate or sleeve, or be not less than 1-1/4 inch from the nearest edge of the framing member, when installed through framing members. Steel plates or sleeves are required on all double shear walls when cable is installed either through or parallel to framing members.
3. Protected by guard-strips within 6 feet of an attic access when no permanent stairs or ladders are provided.
4. Protected by guard-strips in the entire attic when permanent stairs or ladders are provided. Access panels or doors from the second floor into the attic are considered permanent access and guard-strips are required in the entire attic.
5. Have a bending radius not less than 5 times the diameter of the cable.
6. Supported at intervals not exceeding 4-1/2 feet.

## c) CIRCUITS AND RECEPTACLES

1. Receptacles shall be installed so that no point along the floor line in any wall space is more than 6 ft. from an outlet, including any wall space 2 ft. wide or greater. *Note: A fixed panel of a sliding glass door is considered wall space.*
2. In kitchens, breakfast rooms, pantries and dining rooms a minimum of 2-20A circuits shall be provided. Counter space receptacles shall be GFCI and installed:
  - At each wall counter space that is 12 in. or greater;
  - No more than 48 in. oc.;
  - Maximum 24 in. from the end of the counter
  - Maximum 20 in. above counter surface
  - On island counter spaces (one receptacle min.) not more than 12 in. below counter surface;
  - On peninsular counter spaces (one receptacle min.) not more than 12 in. below counter surface;
3. Bathrooms shall have a separate 20A circuit with at least one GFCI wall receptacle within 36 in. of each basin.
4. Laundry rooms shall have a separate 20A circuit with at least one receptacle shall be provided.
5. In garages, at least one GFCI receptacle shall be provided. All other garage receptacles except those dedicated to an appliance shall be GFCI.
6. In hallways of 10 ft. or more in length, at least one receptacle shall be provided.
7. Outdoor outlets shall be GFCI. One outlet shall be installed at the front of the dwelling and one at the rear of the dwelling. Receptacles shall be accessible at grade level and not more than 6-1/2 ft. above grade.
8. All receptacles within 6 ft. of a wet bar shall be GFCI.
9. All receptacles on 15A or 20A branch circuits that supply dwelling unit bedroom receptacles shall be protected by Arc-Fault Circuit Interrupters, including switched outlets.
10. All receptacles serving appliances or motors with a rating of 1 HP or 6 Amps shall be on a separate circuit.
11. For HVAC equipment, a separate 15A or 20A circuit with an accessible receptacle at the equipment shall be provided. If located in an under-floor area, the receptacle shall be GFCI.

## d) LIGHTING

1. Switched lighting shall be installed in:
  - All habitable rooms,
  - Bathrooms,
  - Hallways,
  - Stairways, at each level,
  - Garages,
  - At all outdoor entrances and exits,
  - Near HVAC equipment in attic or under-floor, with a switch at the access point.
2. Lighting installed in a closet shall be either a surface mounted or recessed fluorescent fixture or a surface mounted incandescent fixture with completely enclosed lamps or recessed incandescent fixture with completely enclosed lamps. Surface incandescent lighting shall be installed a minimum of 12 in. from the nearest point of a storage space. Surface fluorescent lighting and recessed lighting shall be installed a minimum of 6 in. from the nearest point of a storage space.

## e) FANS

In bathrooms containing tubs or showers:

1. A fan capable of providing 5 air changes per hour shall be installed when exterior openings for natural ventilation are provided;
2. A fan capable of providing 7.5 air changes per hour shall be installed when no exterior openings for natural ventilation are provided.

## f) SMOKE ALARMS

In new construction, smoke alarms shall receive their primary power from the building wiring. The wiring shall be permanent and installed without a disconnecting switch other than those required for over-current protection.